ATTACHMENT D

REVISIONS TO SAFETY EVALUATION REPORT

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Numerous editorial changes have been made to correct typographical and reference errors.

Two additional change were made to the draft Safety Evaluation Report as a result of comments received during the public comment period: In the text excerpts that follow, the following highlighting convention is used to denote changes:

Italics:	*Changed* text
Bold:	**Added** text
Underscore:	Deleted text

SER Reference	Final Text
4.4.2.5.1	The Cover of the proposed **Containerized** LLRW embankment is described in Section 4.2.5 of the Amendment Application and is depicted on Drawing s D-99150-CV-014, D-99150-CV--016, and D-99150-CV--017 provided in Appendix C. The LLRW embankment cover is a multi-layer system consisting, **from bottom to top**, of a two-component compacted clay radon barrier, lower granular filter zone (Type B Filter Zone), sacrificial soil layer, upper granular filter zone (Type A Filter Zone), and erosion (rock rip rap) barrier layer. Table 4-3 provides material specifications for each layer of the cover. The top slope of the cover would be sloped at 3 percent, with the top slope inclined away from a flat center crest line oriented east-west. Side slopes of the cover would be sloped at 20 percent (5H:1V). The radon barrier layer would be comprised of a 6-foot-thick layer of compacted clay having an as-built saturated permeability of 1 x 10^{-6} cm/sec and an overlying 1-foot-thick layer of compacted clay having an as-built permeability of 5 x 10^{-8} cm/sec or less. The radon barrier would be constructed using soil borrow materials having 85 percent fines < 0.075 mm in diameter; *a* plasticity index **ranging from** 10 to 25; and liquid limit values ranging from 30 to 50. The radon barrier would be placed and constructed in lifts and compacted to meet the specified design criteria. A six-inch-thick lower ("Type B") filter zone, consisting of small and medium aggregate layers, with an overlying sacrificial soil layer, would be placed directly over the radon barrier. Specifications for **the** thickness **of**, gradation **requirements for this layer** (D_{100} of 1 ½ inch or less, D_{40} of 3/8 inch or more, and D_{10} of No. 4 sieve *[*4.75 mm*]* or more), are found in Table 4-3. **In addition**, *t*he filter materials for this layer would have a rock score of at least 50, and **the constructed layer would exhibit** a minimum saturated hydraulic conductivity (permeability) of 3.5 cm/sec. The Applicant indicates (Section 4.2.5 of the Amendment Application) that the sacrificial soil would be placed and spread ahead of construction equipment in order to minimize potential impact to the completed radon barrier.

SER Reference	Final Text
4.4.2.5.1 (Continued)	**The sacrificial soil layer would have a minimum as-built thickness of 12 inches. This layer would serve as a freeze/thaw barrier layer above the lower filter zone. Specifications for the thickness of, and gradation requirements for this layer (D_{100} of 3/4 inch or less, D_{60} of 3/8 inch or more, D_{35} of No. 4 sieve (4.75 mm) or more, and D_{15} of No. 200 sieve [~0.075 mm] or more), are found in Table 4-3. The Applicant indicates (Section 4.2.5 of the Amendment Application) that the sacrificial soil would be placed and spread ahead of construction equipment in order to minimize potential impact to the completed radon barrier.** The upper, six-inch-thick ("Type A") filter zone overlying the sacrificial soil layer, and the surficial erosion barrier layer, would comprise the final (uppermost) layers of the embankment cover. The Type A filter zone layer would be placed over the sacrificial soil layer. The **Type A filter zone** layer would consist of poorly graded aggregates of less than 6 inches **in diameter. Specifications for thickness, gradation, and rack durability (minimum 6 inches thick, D_{100} of 6 inches or less, D_{70} of 3 inches or less, D_{50} of 1.57 inches (40 mm) or less, D_{15} of 0.85 inch or less, D_{10} of No. 10 sieve (about 2 mm) or more, and D_5 of No. 200 sieve [~0.075 mm] or more; and rock score of at least 50) are found in Table 4-3.** This layer would serve a similar purpose to the lower ("Type B") filter zone, serving as a protective layer for the sacrificial soil and providing a transitional gradation between the sacrificial soil layer and **the overlying** rip-rap erosion barrier. The Erosion Barrier **(minimum 18 inches thick)** would be constructed of large, durable rock **(having a rock score of at least 50)** meeting the specifications provided in Table 4-3. **The top cover portion of the riprap layer would have the following gradation: D_{100} of 4 ½ inches or less, D_{50} of 1 1/4 inches or more, D_{10} of 3/4 inch or more, and D_5 of No. 200 sieve [~0.075 mm] or more. The side cover portion of the riprap layer would have the following gradation: D_{100} of 16 inches or less, D_{90} of 12 inches or less, D_{50} of 4 ½ inches or more, D_{10} of 2 inches or more, and D_5 of No. 200 sieve [~0.075 mm] or more. The** gradation of erosion barrier for the top slopes of the embankment ("Type B Rip rap") would be smaller than that for the side slopes ("Type A Rip rap") due to the generally flat slope of the top compared to the sides. Table 4-2 summarizes . . . .
4.18.1	The exemption request document provided to the Radiation Control Board by Envirocare indicated that the exemptions granted for the NORM facility in 1987 and for Envirocare to accept low-level radioactive waste in 1991 should continue because Envirocare has demonstrated that equivalency to governmental land ownership has been achieved. This is further supported by a decision by the NRC: In the Matter of State of Utah, 41 N.R.C. 43, 1995 NRC LEXIS 4 (January 26, 1995) in which the NRC provided a basis that the previous exemption (1991) provided protection equivalent to governmental ownership of the site. This basis included a finding that institutional controls and other measures would be equivalent to those that would be effected by governmental ownership of the site. In addition, **a law was signed into effect in 2001 that establishes perpetual care and maintenance responsibilities and funds beyond the 100-year institutional control period and better defines future site ownership**. These will provide enhancements beyond the equivalency to be demonstrated to the Board by Envirocare. The Radiation Control Board will provide a record via the Board minutes, hearing transcripts, and written comments of the discussion regarding this issue. **The Board granted the exemption request with contingencies as reflected in the Board's record of decision, captured in the minutes of its January 19, 2001 meeting.**